

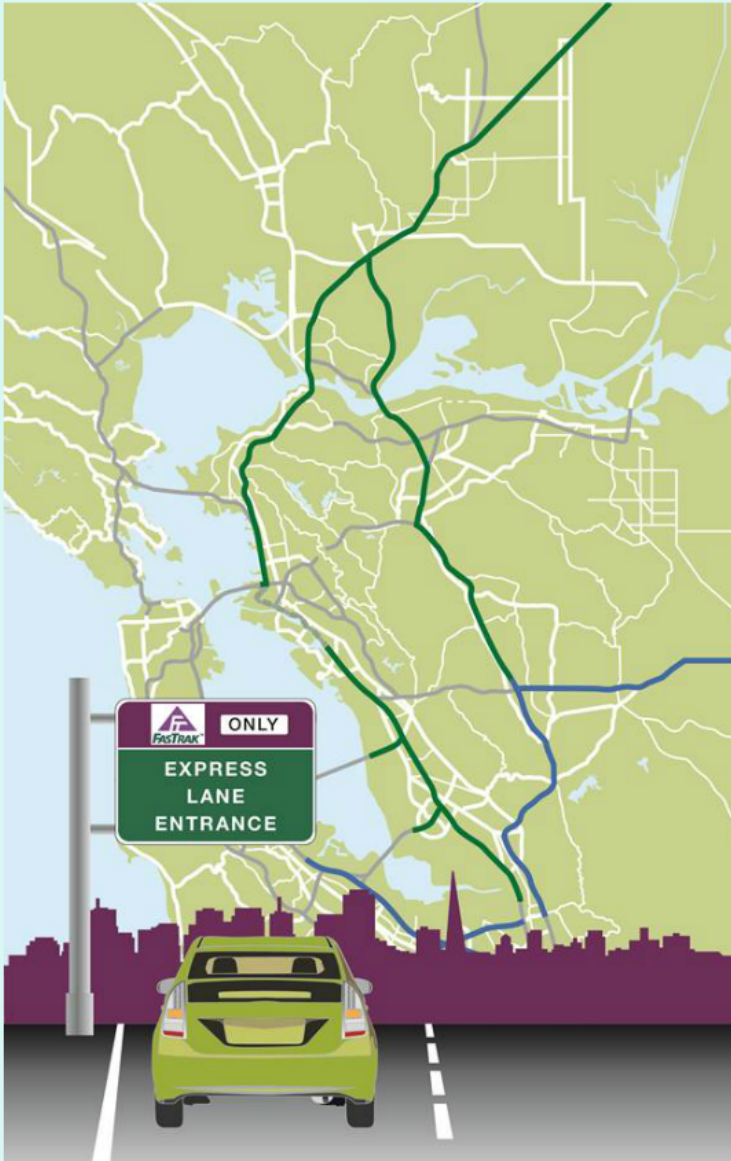
BAY AREA EXPRESS LANES

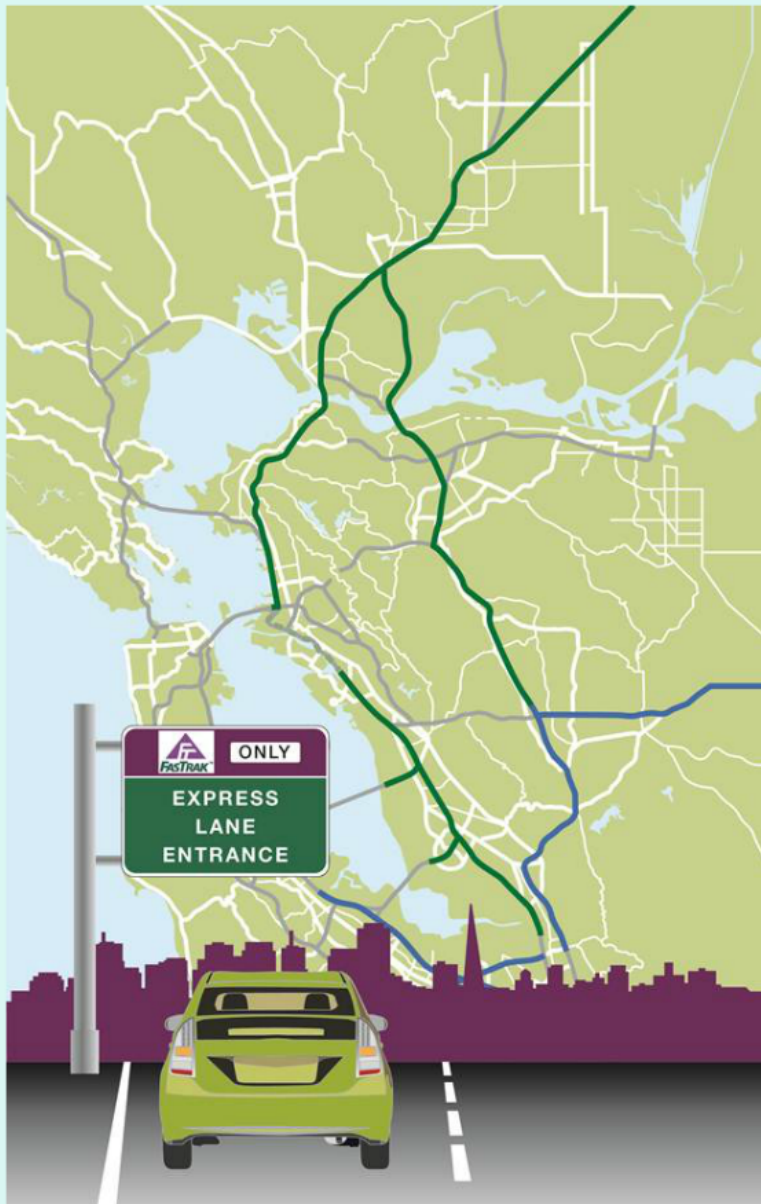
ITS California Annual Meeting | October 2, 2013

"Trying to Be Cutting Edge Without Bleeding"

Jim Macrae

Metropolitan Transportation Commission





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Agenda

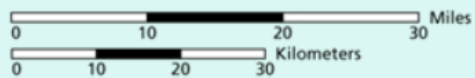
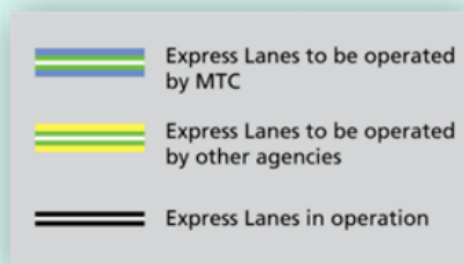
- Background
- Goals
- System Differences

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Background

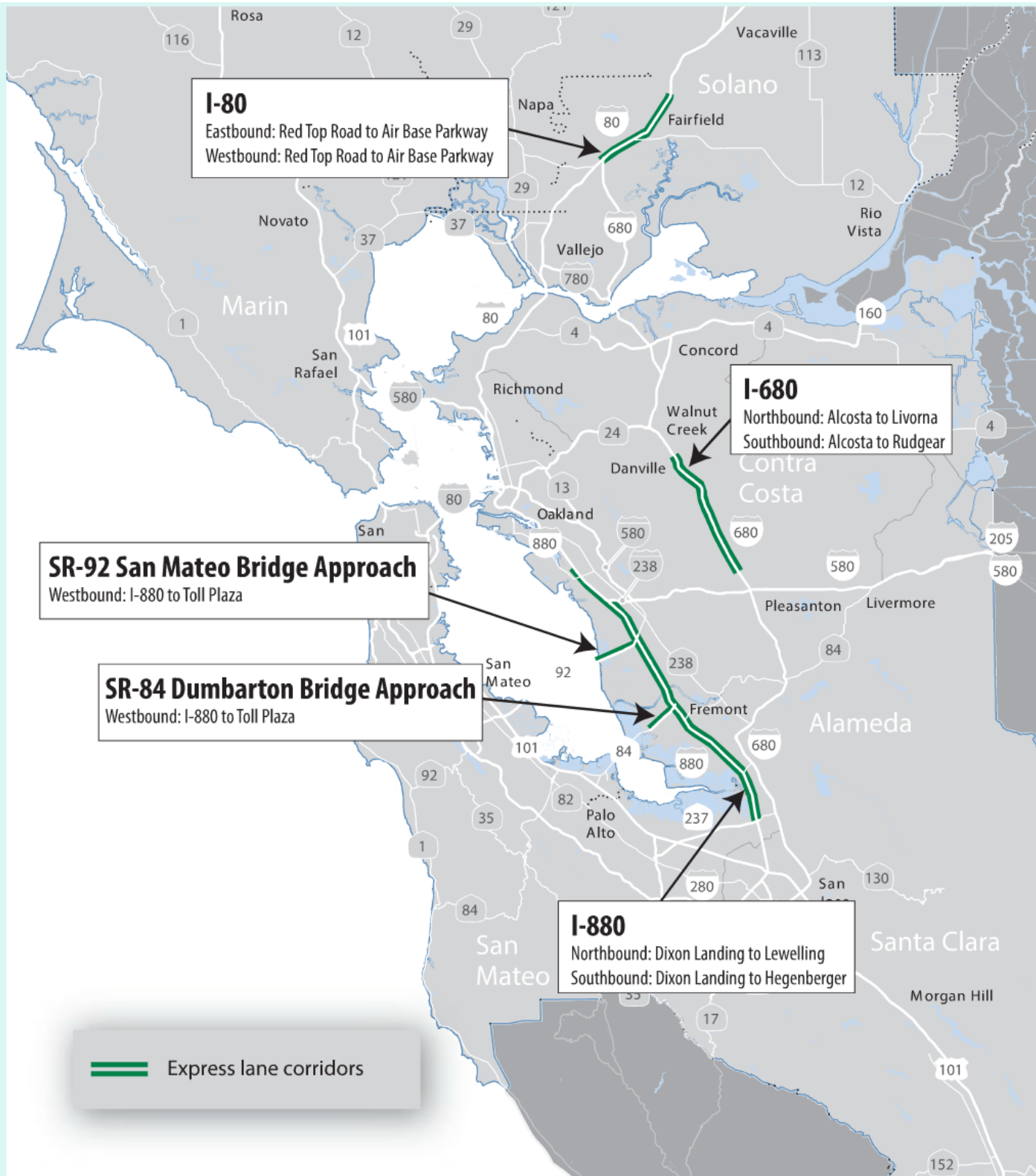
- BAIFA (Bay Area Infrastructure Financing Authority) is a Joint Powers Authority between MTC and BATA
-
- October 2011: CTC authorized a 270-mile Express Lane Network for MTC to develop/operate
-
- March 2013: MTC delegated its authority and responsibilities to BAIFA

550 mile express lane network



HOT net System projection no gap
Street base map © Thomas Bros. Maps. All rights reserved.
MTC Graphics/pb — 1.24.2013





Express Lane Goals

- Connectivity: Close gaps within existing HOV lane system to serve carpools and buses
-
- Efficiency: Optimize capacity in Bay Area freeway corridors
-
- Reliability: Provide a reliable, congestion-free transportation option
- All with minimum impact to the FasTrak® Customer Service Center

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System Differences

- Near continuous access
- Using proven technology in different ways
- Express Lanes System Architecture
- Automated toll enforcement

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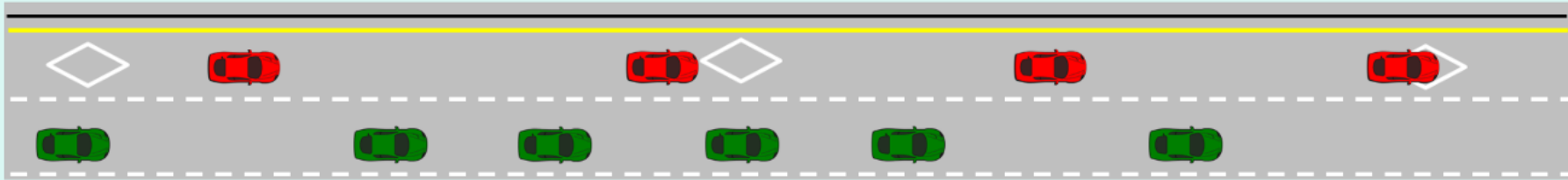
Near Continuous Access


- Goal: not to restrict the current HOV's access
- Some places require restrictions due to safety and traffic impact concerns
- Implementing on several long corridors that eventually will connect, including connections with other Bay Area Express Lanes Operators
- Corridors will be divided into zones for pricing.

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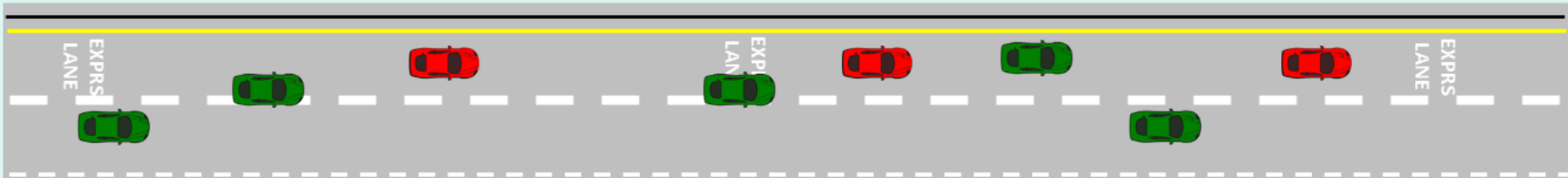
Existing HOV Lane



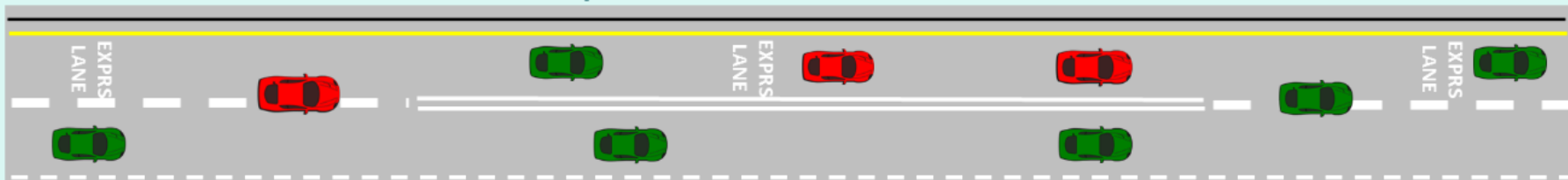
 = Single Occupant Vehicle

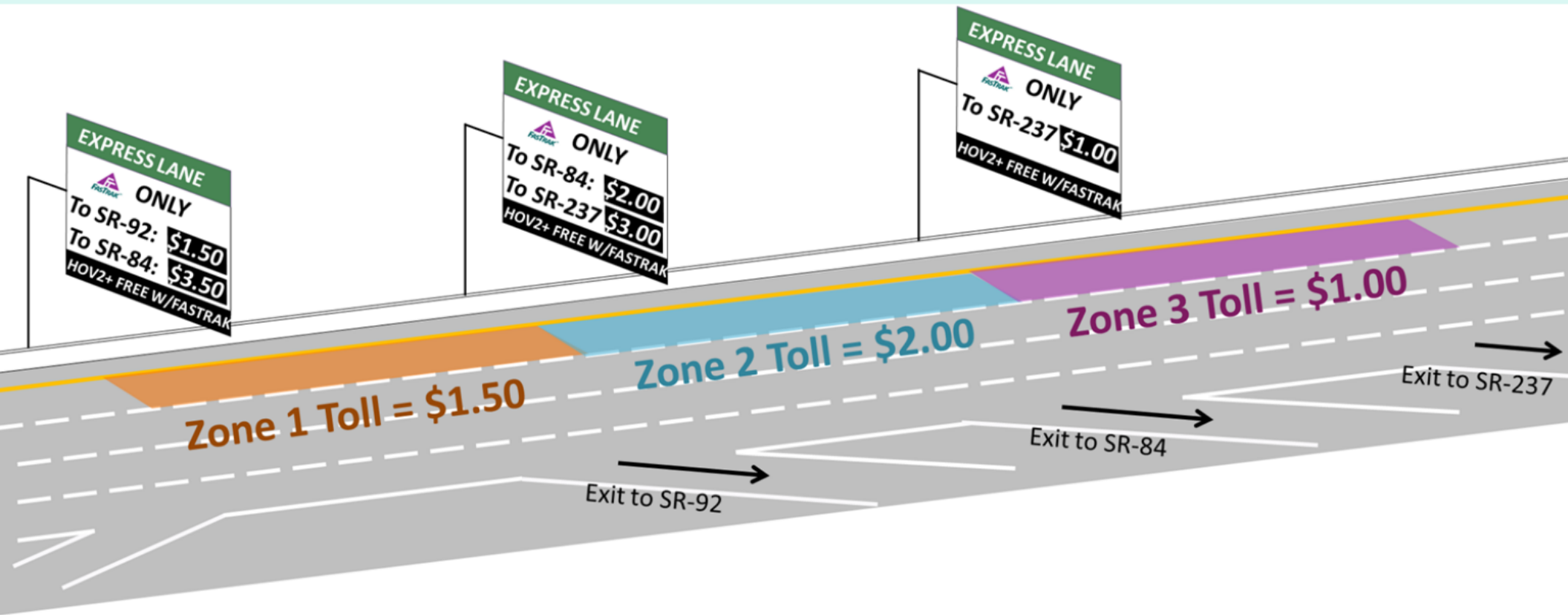
 = High Occupant Vehicle

Express Lane Conversion



Express Lane Access Restriction



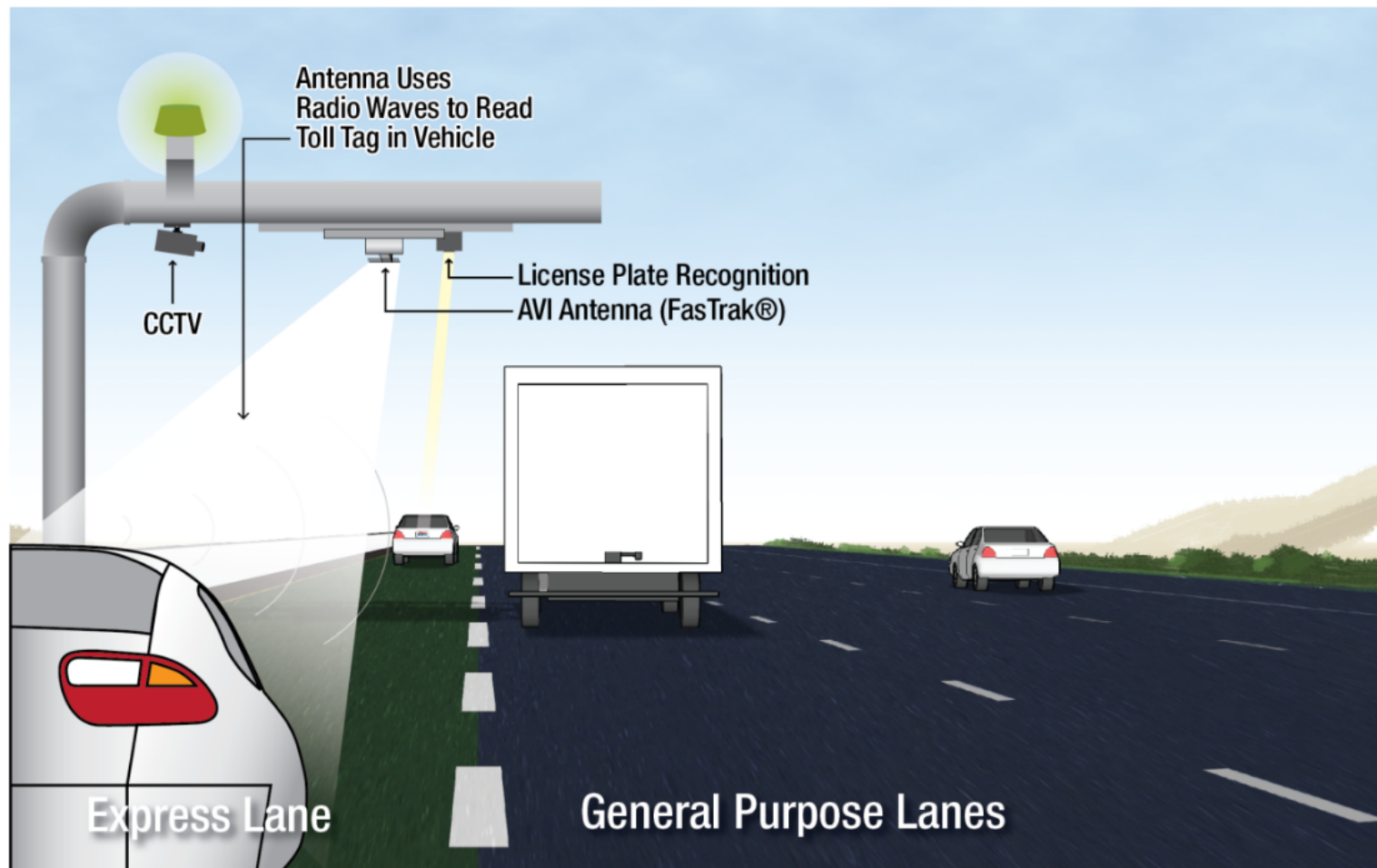




Using Proven Technology in New Ways

- Associating Automatic License Plate Readers (ALPR) with Automatic Vehicle Identification (AVI) Readers
- Allows for building trip transactions on the Express Lane System side vs. the Regional Customer Service Center

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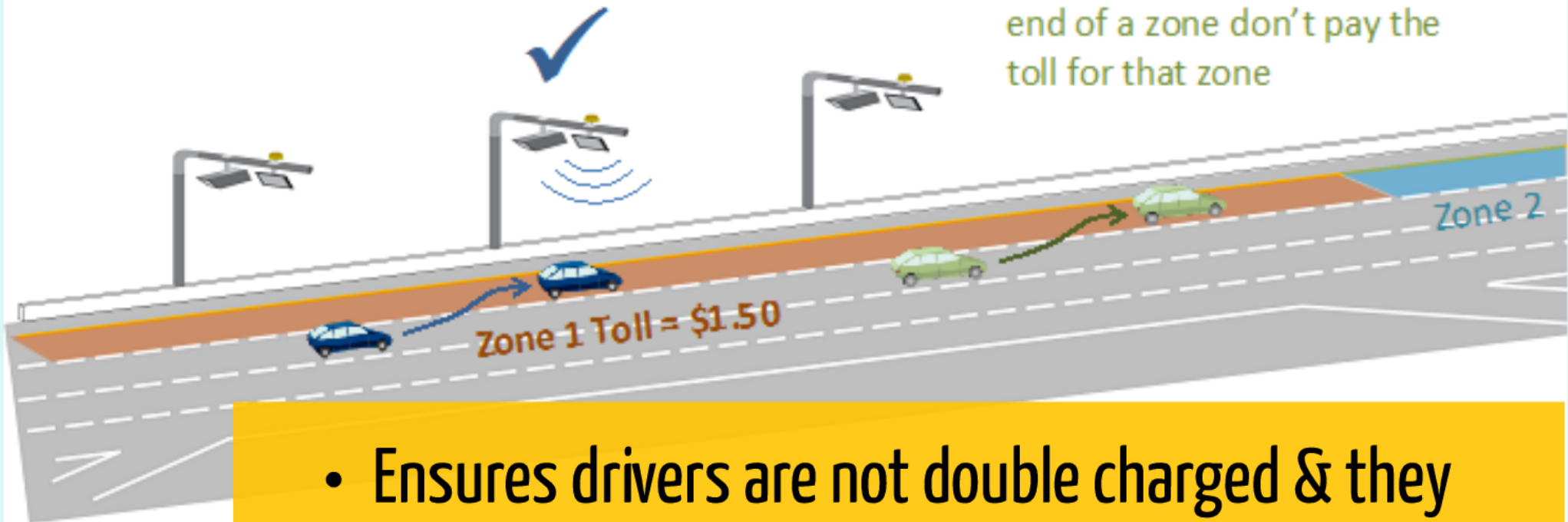


- Associates tag reads and license plate images

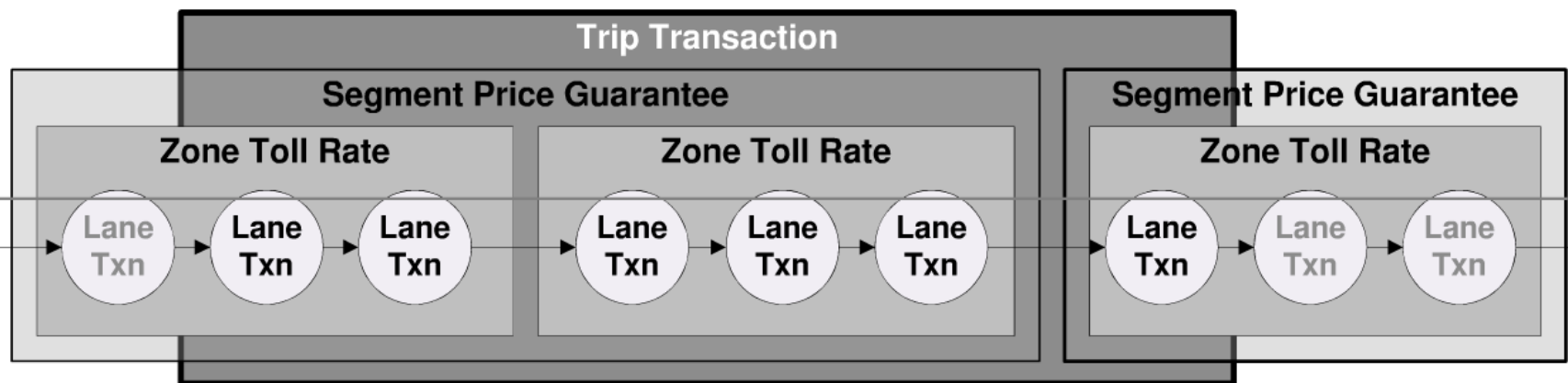
How Zone Tolls Work

Zone pricing minimizes revenue leakage: Blue car pays full \$1.50 zone toll although it only uses half of the toll zone.

No toll readers placed near the end of toll zone, so vehicles who enter at the end of a zone don't pay the toll for that zone



- Ensures drivers are not double charged & they receive locked-in rate
- Don't need 100% ALPR accuracy; just consistency



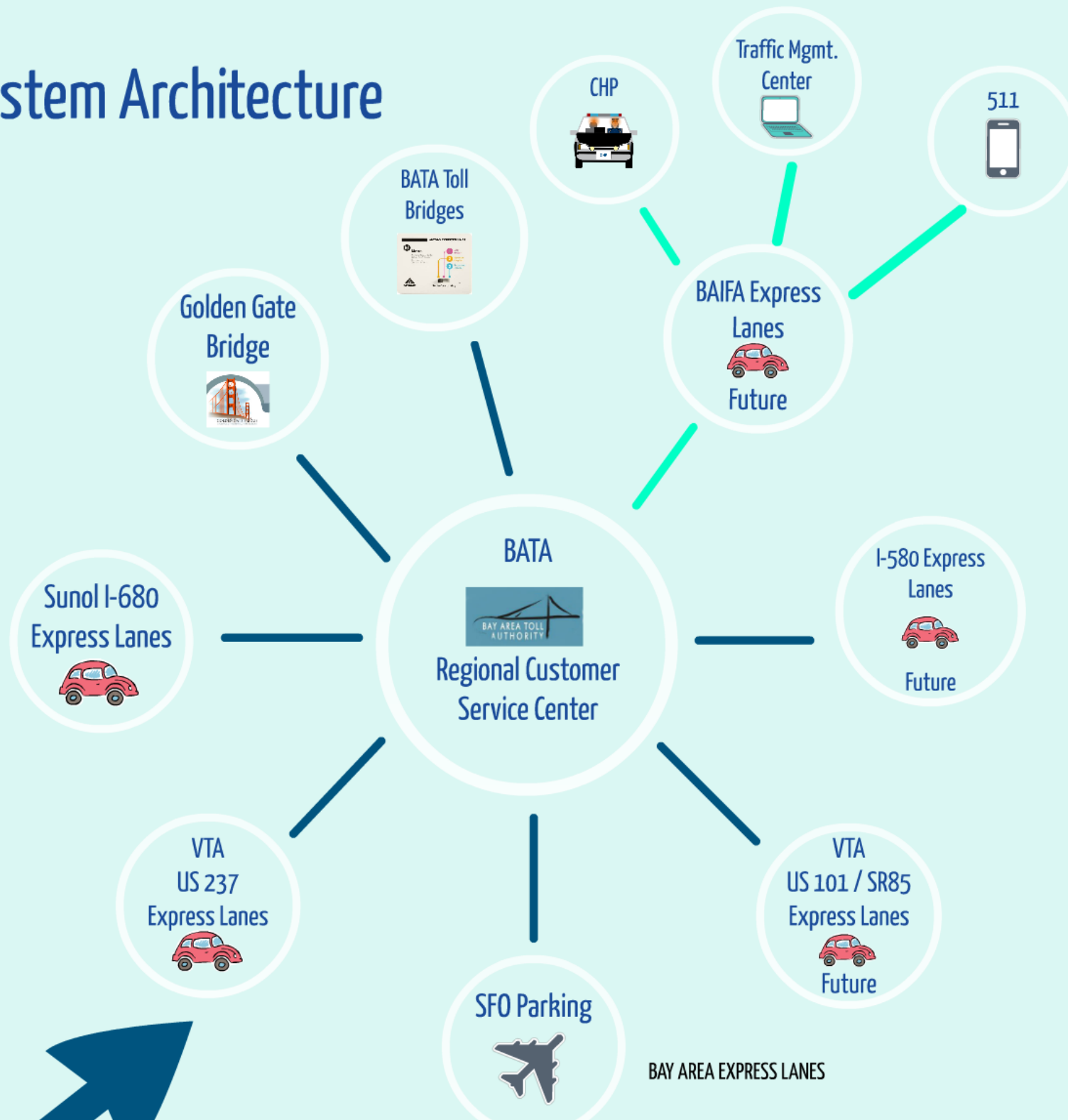
Advantages

1. Reduces the need for the RCSC to reject double posting.
2. Works regardless of account status; account information is not necessary.
3. Requires only repeatable, not highly accurate, ALPR.
4. Leaves RCSC processing, including image review, as-is.
5. Reduces risk by relying on proven technology

Disadvantages

1. There may be only a few companies capable of providing the “association technology” of tag reads and ALPR required.
2. If the “association technology” is not sufficiently accurate, image review will still be required to validate trip.
3. Requires somewhat increased bandwidth and processing speed if transactions are to be formed in real time.

System Architecture

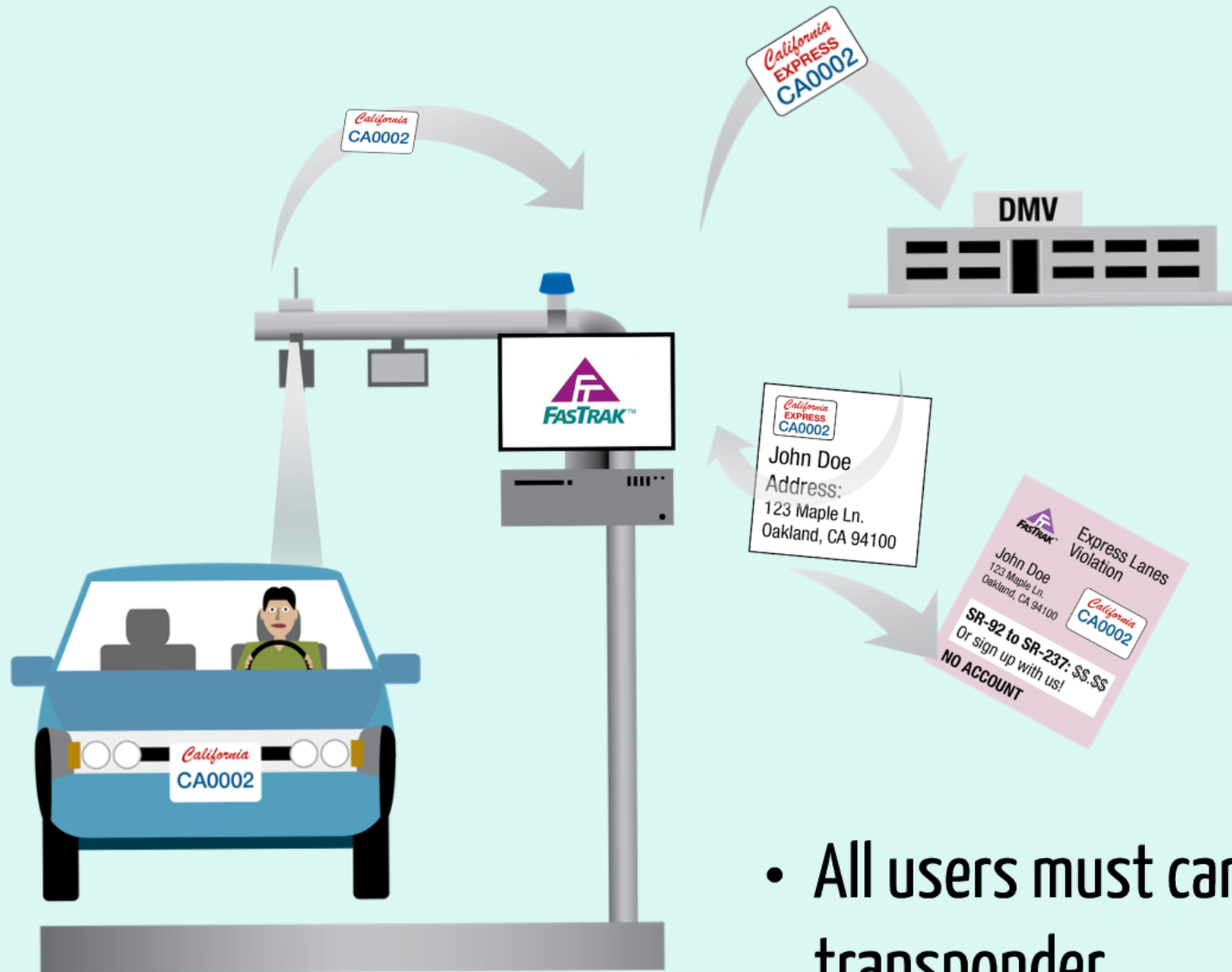


Enforcement

- Toll Violation
- HOV Violation

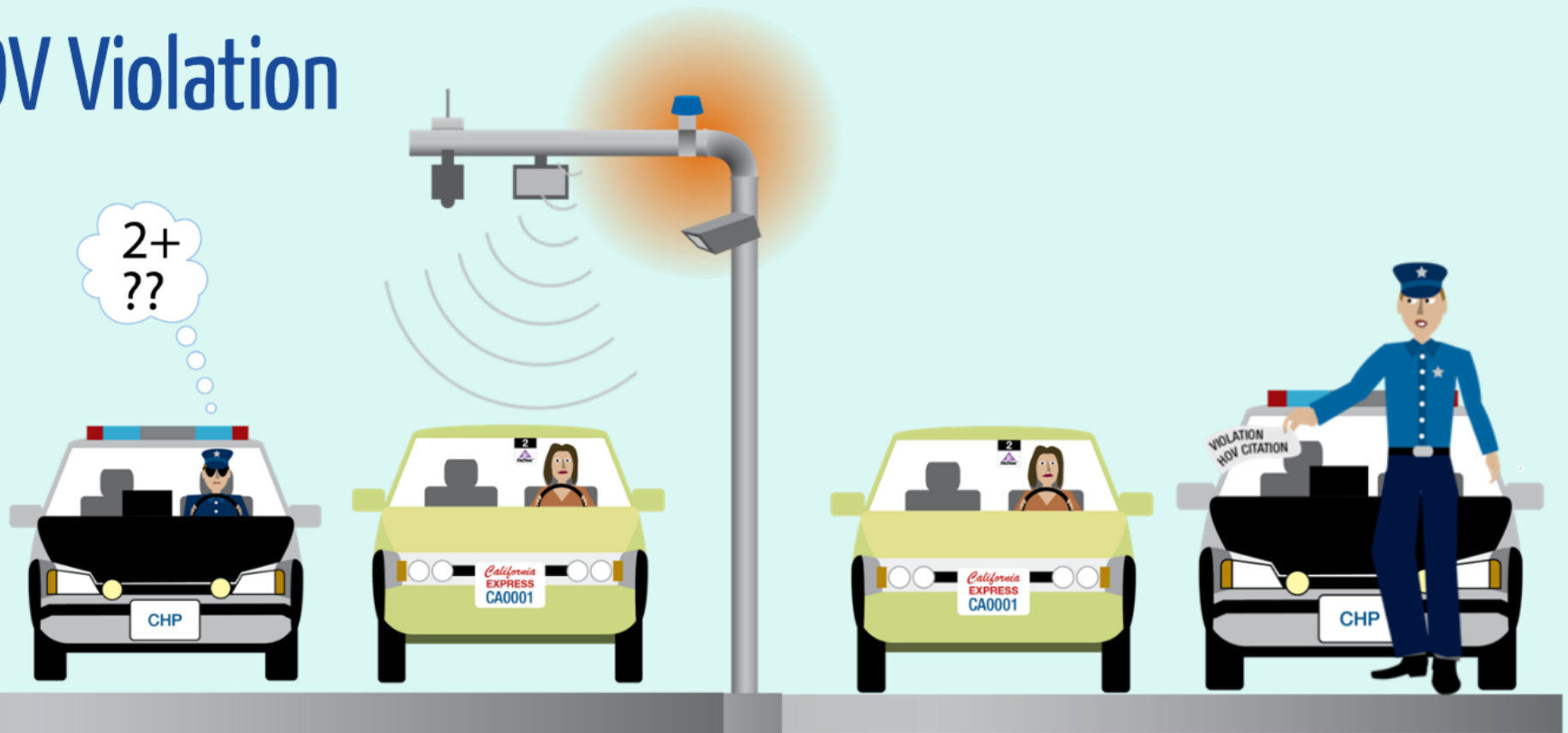
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Toll Violation



- All users must carry a transponder.
- All HOVs must carry a switchable transponder.

HOV Violation



- CHP is only enforcing HOV violations
- Proposing two types of beacons
 - 180 degrees to assist CHP on the road
 - Pinpoint beacons for use in enforcement areas

Regional Web Portal Enforcement Tool

- Look-up tool for CHP officers to query toll system on HOV status declared by driver
- Challenge: Same tool for all Bay Area Express Lane Operators

Cutting Edge vs Bleeding

- Focus on what is critical - Not trying to tackle 50 different ways of being innovative
 - Switchable tags and trip building
 - Open access
- Manage risk and expectation to limit distractions
- Limiting functionality/performance levels for less critical areas, e.g. classification
- Seeking to leverage proven and existing technology

Questions?

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